

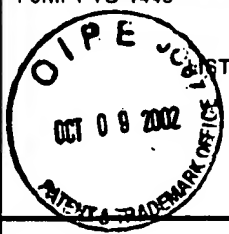


Form PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. MI22-1669		SERIAL NO. 09/921,518	
 PRIOR ART CITED BY APPLICANT (Use several sheets if necessary)				APPLICANT: John T. Moore			
				FILING DATE August 1, 2001		GROUP 2818	
U.S. PATENT DOCUMENTS							
*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
PP	AA	3,622,319	11/23/71	Sharp	96	27	
	AB	3,743,847	07/03/73	Boland	250	510	
	AC	4,269,935	05/26/81	Masters et al.	430	323	
	AD	4,312,938	01/26/82	Drexler et al.	430	496	
	AE	4,320,191	03/16/82	Yoshikawa et al.	430	296	
	AF	4,795,657	01/03/89	Formigoni et al.	427	96	
	AG	4,847,674	07/11/89	Silwa et al.	357	67	
	AH	5,177,567	01/05/93	Klersy et al.	257	4	
	AI	5,219,788	06/15/93	Abernathey et al.	437	187	
PD	AJ	5,751,012	05/12/98	Wolstenholme et al.	257	5	
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation
							Yes No
	AK						
	AL						
	AM						
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)							
PP	AN		Das et al., <i>Theory of the characteristic curves of the silver chalcogenide glass inorganic photoresists</i> , 54 APPL. PHYS. LETT., No. 18, pp. 1745-1747 (May 1989).				
	AO		Helbert et al., <i>Intralevel hybrid resist process with submicron capability</i> , SPIE Vol. 333 SUBMICRON LITHOGRAPHY pp. 24-29 (1982)				
	AP		Hilt, DISSERTATION: <i>Materials Characterization of Silver Chalcogenide Programmable Metallization Cells</i> , Arizona State University, pp. title page-114 (UMI Company, May 1999).				
PD							
EXAMINER PHUC T. DANG				DATE CONSIDERED 5/28/04			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

Form PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. MI22-1669		SERIAL NO. 09/921,518	
<div style="text-align: center;">  </div>				LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)			
				APPLICANT: John T. Moore			
				FILING DATE August 1, 2001		GROUP 2818	
U.S. PATENT DOCUMENTS							
*Examiner Initial	AA	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
PD ↑ ↓ PD		5,789,277	08/04/98	Zahorik et al.	438	95	
		5,841,150	11/24/98	Gonzalez et al.	257	3	
		5,920,788	07/06/99	Reinberg	438	466	
		5,998,066	12/07/99	Block et al.	430	5	
		6,077,729	06/20/00	Harshfield	438	128	
		6,236,059 B1	05/22/01	Wolstenholme et al.	257	3	
		6,297,170 B1	10/02/01	Gabriel et al.	438	738	
		6,300,684 B1	10/09/01	Gonzalez et al.	257	774	
		6,316,784 B1	11/13/01	Zahorik et al.	257	3	
		6,329,606 B1	12/11/01	Freyman et al.	174	260	
	AK	6,348,365	02/19/02	Moore et al.	438	130	
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation Yes No
	AL						
	AM						
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)							
PD ↑ ↓ PD	AN	Holmquist et al., <i>Reaction and Diffusion in Silver-Arsenic Chalcogenide Glass Systems</i> , 62 J. AMER. CERAMIC SOC., Nos. 3-4, pp. 183-188 (Mar.-Apr. 1979).					
	AO	Huggett et al., <i>Development of silver sensitized germanium selenide photoresist by reactive sputter etching in SF₆</i> , 42 APPL. PHYS. LETT., No. 7, pp. 592-594 (April 1983).					
	AP	Kawaguchi et al., <i>Mechanism of photosurface deposition</i> , 164-166 J. NON-CRYST. SOLIDS, pp. 1231-1234 (1993).					
EXAMINER PHUC T. DANG				DATE CONSIDERED 5/28/04			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

Form PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. MI22-1669		SERIAL NO. 09/921,518	
				LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)			
				APPLICANT: John T. Moore			
				FILING DATE August 1, 2001		GROUP 2818	


U.S. PATENT DOCUMENTS							
*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
PD ↑ ↓ PD	AA	6,376,284 B1	04/23/02	Gonzalez et al.	438	129	
	AB	6,391,688 B1	05/21/02	Gonzalez et al.	438	128	
	AC	6,414,376 B1	07/02/02	Thakur et al.	257	640	
	AD	6,418,049 B1	07/09/02	Kozicki et al.	365	174	
	AE	6,423,628 B1	07/23/02	Li et al.	438	622	
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

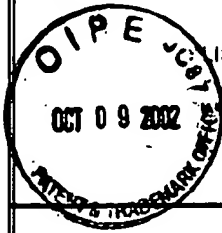
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation
							Yes No
	AL						
	AM						


OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)			
PD ↑ ↓ PD	AN	McHardy et al., <i>The dissolution of metals in amorphous chalcogenides and the effects of electron and ultraviolet radiation</i> , 20 J. PHYS. C: SOLID STATE PHYS., pp. 4055-4075 (1987).	
	AO	Miyatani, <i>Electrical Properties of Ag₂Se</i> , 13 J. Phys. Soc. Japan, p. 317 (1958).	
	AP	Mizusaki et al. <i>Kinetic Studies on the Selenization of Silver</i> , 47 BUL. CHEM. SOC. JAPAN., No. 11 pp. 2851-2855 (November 1974).	

EXAMINER PHUC T. DANG	DATE CONSIDERED 5/28/04
--------------------------	----------------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE			ATTY. DOCKET NO. MI22-1669		SERIAL NO. 09/921,518	
<div style="float: left; width: 150px; text-align: center;">  </div> <div style="float: right; width: 80%;"> LIST OF ART CITED BY APPLICANT (Use several sheets if necessary) </div> <div style="clear: both;"></div>					APPLICANT: John T. Moore			
					FILING DATE August 1, 2001		GROUP 2818	
U.S. PATENT DOCUMENTS								
*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate	
PD	AA	10/061,825		Gilton et al. (as filed and amended)			01/31/2002	
PP	AB	10/077,867		Campbell et al. (as filed)			02/20/2002	
PD	AC	10/232,757		Li, et al. (as filed)			08/29/2002	
	AD							
	AE							
	AF							
	AG							
	AH							
	AI							
	AJ							
	AK							
FOREIGN PATENT DOCUMENTS								
		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	AL							
	AM							
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)								
PD ↑	AN		Owens et al., <i>Metal-Chalcogenide Photoresists for High Resolution Lithography and Sub-Micron Structures</i> , NANOSTRUCTURE PHYSICS AND FABRICATION, pp. 447-451 (Academic Press, 1989).					
	AO		Safran et al., <i>TEM study of Ag₂Se developed by the reaction of polycrystalline silver films and selenium</i> , 317 THIN SOLID FILMS, pp. 72-76 (1998).					
↓ PD	AP		Shimizu et al., <i>The Photo-Erasable Memory Switching Effect of Ag Photo-Doped Chalcogenide Glasses</i> , 46 BUL. CHEM. SOC. JAPAN, No. 12, pp. 3662-3665 (December 1973).					
EXAMINER PHUC T. DANG				DATE CONSIDERED 5/28/04				
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								

Form PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. MI22-1669		SERIAL NO. 09/921,518	
<div style="text-align: center;">  </div> <div style="text-align: center;"> LIST OF ART CITED BY APPLICANT (Use several sheets if necessary) </div>				APPLICANT: John T. Moore			
				FILING DATE August 1, 2001		GROUP 2818	
U.S. PATENT DOCUMENTS							
*Examiner Initial	AA	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	<div style="text-align: center;">Translation</div> <div style="display: flex; justify-content: space-around;"> Yes No </div>
	AL						
	AM						
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)							
PD ↑ ↓ PD	AN		Somogyi et al., <i>Temperature Dependence of the Carrier Mobility in Ag₂Se Layers Grown on</i>				
			NaCl and SiO ₂ Substrates, 74 ACTA PHYSICA HUNGARICA, No. 3, pp. 243-255 (1994).				
	AO		Tai et al., <i>Multilevel Ge-Se film based resist systems</i> , SPIE Vol. 333 SUBMICRON LITHOGRAPHY,				
			pp. 32-39 (March 1982).				
AP		Tai et al., <i>Submicron optical lithography using an inorganic resist/polymer bilevel scheme</i> ,					
		17 J. Vac. Sci. Technol., No. 5, pp. 1169-1176 (Sept./Oct. 1980).					
EXAMINER PHUC T. DANG				DATE CONSIDERED 5/28/04			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

Form PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. MI22-1669		SERIAL NO. 09/921,518	
<div style="text-align: center;">  </div> <div style="text-align: center;"> LIST OF ART CITED BY APPLICANT <small>(Use several sheets if necessary)</small> </div>				APPLICANT: John T. Moore			
				FILING DATE August 1, 2001		GROUP 2818	
U.S. PATENT DOCUMENTS							
*Examiner Initial	AA	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation
							Yes No
	AL						
	AM						
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)							
PD ↑	AN		West, DISSERTATION: <i>Electrically Erasable Non-Volatile Memory Via electrochemical Deposition of Multifractal Aggregates</i> , Arizona State University, pp. title page-168 (UMI Co., May 1998).				
	AO		West et al., <i>Equivalent Circuit Modeling of the Ag(As_{0.24}S_{0.38}Ag_{0.40})Ag System Prepared by Photodissolution of Ag</i> , 145 J. Electrochem. Soc., No. 9, pp. 2971-2974 (September 1998).				
↓ PD	AP		Yoshikawa et al., <i>A new inorganic electron resist of high contrast</i> , 31 APPL. PHYS. LETT., No. 3, pp. 161-163 (August 1977).				
EXAMINER PHUC T. DANG				DATE CONSIDERED 5/28/04			
<small>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</small>							

Form PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. MI22-1669		SERIAL NO. 09/921,518	
LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)				APPLICANT: John T. Moore			
				FILING DATE August 1, 2001		GROUP 2818	

OIPE JCB
 OCT 09 2002
 PATENT & TRADEMARK OFFICE

U.S. PATENT DOCUMENTS							
*Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate	
AA							
AB							
AC							
AD							
AE							
AF							
AG							
AH							
AI							
AJ							
AK							

FOREIGN PATENT DOCUMENTS							
Document Number	Date	Country	Class	Subclass	Translation		
					Yes	No	
AL							
AM							

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)		
PD	AN	Yoshikawa et al., <i>Dry development of Se-Ge Inorganic photoresist</i> , 36 APPL. PHYS. LETT., No. 1, pp. 107-109 (January 1980).
	AO	
	AP	

EXAMINER PHUC T. DANG	DATE CONSIDERED 5/28/04
---------------------------------	-----------------------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

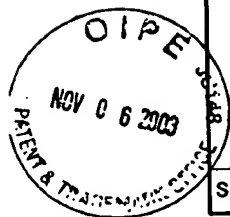
INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 8

Compl 1 If Known

Application Number 09/921,518
 Filing Date August 1, 2001
 First Named Inventor John T. Moore
 Art Unit 2818
 Examiner Name Phuc T. Dang
 Attorney Docket Number M4065.0696/P696



U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
PP ↑	AA	5,761,115	06/02/1998	Kozicki et al.	
	AB	6,084,796	07/04/2000	Kozicki et al.	
	AC	5,914,893	06/22/1999	Kozicki et al.	
	AD	5,896,312	04/20/1999	Kozicki et al.	
	AE	6,388,324	05/14/2002	Kozicki et al.	
PD ↓	AF	US 2002/0000666	01/03/2002	Kozicki et al.	
	AG	5,500,532	03/19/1996	Kozicki et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	†
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
PD ↑	BA	WO 02/21542	03/14/2002	Kozicki et al.		
	BB	WO 00/48196	08/17/2000	Kozicki et al.		
	BC	WO 97/48032	12/18/1997	Kozicki et al.		
PD ↓	BD	WO 99/28914	06/10/1999	Kozicki et al.		

Examiner
Signature

PHUC T. DANG

Date
Considered

5/28/04

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See attached Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 801.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the application number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.



PTO/SB/088 (10-01)

Approved for use through 10/31/2002 OMB 0651-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete If Known		
		Application Number	09/921,518	
		Filing Date	August 1, 2001	
		First Named Inventor	John T. Moore	
		Group Art Unit	2818	
		Examiner Name	Phuc T. Dang	
Sheet	2	8	Attorney Docket Number	M4065.0696/P696

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS				
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²	
PP	CA	Abdel-Ali, A.; Elshafie, A.; Elhawary, M.M., DC electric-field effect in bulk and thin-film Ge ₅ As ₃₈ Te ₅₇ chalcogenide glass, Vacuum 59 (2000) 845-853.		
	CB	Adler, D.; Moss, S.C., Amorphous memories and bistable switches, J. Vac. Sci. Technol. 9 (1972) 1182-1189.		
	CC	Adler, D.; Henisch, H.K.; Mott, S.N., The mechanism of threshold switching in amorphous alloys, Rev. Mod. Phys. 50 (1978) 209-220.		
	CD	Afifi, M.A.; Labib, H.H.; El-Fazary, M.H.; Fadel, M., Electrical and thermal properties of chalcogenide glass system Se ₇₅ Ge ₂₅ -xSbx, Appl. Phys. A 55 (1992) 167-169.		
	CE	Afifi, M.A.; Labib, H.H.; Fouad, S.S.; El-Shazly, A.A., Electrical & thermal conductivity of the amorphous semiconductor GexSe _{1-x} , Egypt, J. Phys. 17 (1986) 335-342.		
	CF	Alekperova, Sh.M.; Gadzhieva, G.S., Current-Voltage characteristics of Ag ₂ Se single crystal near the phase transition, Inorganic Materials 23 (1987) 137-139.		
	CG	Aleksiejunas, A.; Cesnys, A., Switching phenomenon and memory effect in thin-film heterojunction of polycrystalline selenium-silver selenide, Phys. Stat. Sol. (a) 19 (1973) K169-K171.		
	CH	Angeli, C.A., Mobile ions in amorphous solids, Annu. Rev. Phys. Chem. 43 (1992) 693-717.		
	CI	Aniya, M., Average electronegativity, medium-range-order, and ionic conductivity in superionic glasses, Solid state Ionics 136-137 (2000) 1085-1089.		
	CJ	Asahara, Y.; Izumitani, T., Voltage controlled switching in Cu-As-Se compositions, J. Non-Cryst. Solids 11 (1972) 97-104.		
	CK	Asokan, S.; Prasad, M.V.N.; Parthasarathy, G.; Gopal, E.S.R., Mechanical and chemical thresholds in IV-VI chalcogenide glasses, Phys. Rev. Lett. 62 (1989) 808-810		
	CL	Baranovskii, S.D.; Cordes, H., On the conduction mechanism in ionic glasses, J. Chem. Phys. 111 (1999) 7546-7557.		
	CM	Belin, R.; Taillades, G.; Pradel, A.; Ribes, M., Ion dynamics in superionic chalcogenide glasses: complete conductivity spectra, Solid state Ionics 136-137 (2000) 1025-1029.		
	CN	Belin, R.; Zerouale, A.; Pradel, A.; Ribes, M., Ion dynamics in the argyrodite compound Ag ₇ GeSe ₅ I: non-Arrhenius behavior and complete conductivity spectra, Solid State Ionics 143 (2001) 445-455.		
	CO	Benmore, C.J.; Salmon, P.S., Structure of fast ion conducting and semiconducting glassy chalcogenide alloys, Phys. Rev. Lett. 73 (1994) 264-267.		
	CP	Bernede, J.C., Influence du metal des electrodes sur les caracteristiques courant-tension des structures M-Ag ₂ Se-M, Thin solid films 70 (1980) L1-L4.		
	CQ	Bernede, J.C., Polarized memory switching in MIS thin films, Thin Solid Films 81 (1981) 155-160.		
	CR	Bernede, J.C., Switching and silver movements in Ag ₂ Se thin films, Phys. Stat. Sol. (a) 57 (1980) K101-K104.		
	CS	Bernede, J.C.; Abachi, T., Differential negative resistance in metal/insulator/metal structures with an upper bilayer electrode, Thin solid films 131 (1985) L61-L64.		
	CT	Bernede, J.C.; Conan, A.; Fousenan, E.; El Bouchaïr, B.; Goureaux, G., Polarized memory switching effects in Ag ₂ Se/Se/M thin film sandwiches, Thin solid films 97 (1982) 165-171.		
	CU	Bernede, J.C.; Khelil, A.; Kettaf, M.; Conan, A., Transition from S- to N-type differential negative resistance in Al-Al ₂ O ₃ -Ag ₂ -xSe _{1-x} thin film structures, Phys. Stat. Sol. (a) 74 (1982) 217-224.		
	CV	Bondarev, V.N.; Pikhitsa, P.V., A dndrit model of current instability in RbAg ₄ I ₅ , Solid Stat Ionics 70/71 (1994) 72-76.		
PD	CW	Boochand, P., Th maximum in glass transition temperature (Tg) n ar x=1/3 In GexSe _{1-x}		

1533359 v1; WVS0011.DOC

PHUC T. DANG

PRIMARY EXAMINER

Phuc T. Dang

5/28/04



PTO/SB/088 (10-01)
Approved for use through 10/31/2002 OMB 0651-0031
U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete If Known		
		Application Number	09/921,518	
		Filing Date	August 1, 2001	
		First Named Inventor	John T. Moore	
		Group Art Unit	2818	
		Examiner Name	Phuc T. Dang	
Sheet	3	8	Attorney Docket Number	M4065.0696/P696

PD		Glasses, Asian Journal of Physics (2000) 9, 709-72.	
	CX	Boolchand, P.; Bresser, W.J., Mobile silver ions and glass formation in solid electrolytes, Nature 410 (2001) 1070-1073.	
	CY	Boolchand, P.; Georgiev, D.G.; Goodman, B., Discovery of the Intermediate Phase in Chalcogenide Glasses, J. Optoelectronics and Advanced Materials, 3 (2001), 703	
	CZ	Boolchand, P.; Selvanathan, D.; Wang, Y.; Georgiev, D.G.; Bresser, W.J., Onset of rigidity in steps in chalcogenide glasses, Properties and Applications of Amorphous Materials, M.F. Thorpe and Tichy, L. (eds.) Kluwer Academic Publishers, the Netherlands, 2001, pp. 97-132.	
	CA1	Boolchand, P.; Enzweiler, R.N.; Tenhover, M., Structural ordering of evaporated amorphous chalcogenide alloy films: role of thermal annealing, Diffusion and Defect Data Vol. 53-54 (1987) 415-420.	
	CB1	Boolchand, P.; Grothaus, J.; Bresser, W.J.; Suranyi, P., Structural origin of broken chemical order in a GeSe2 glass, Phys. Rev. B 25 (1982) 2975-2978.	
	CC1	Boolchand, P.; Grothaus, J.; Phillips, J.C., Broken chemical order and phase separation in GexSe1-x glasses, Solid state comm. 45 (1983) 183-185.	
	CD1	Boolchand, P., Bresser, W.J., Compositional trends in glass transition temperature (Tg), network connectivity and nanoscale chemical phase separation in chalcogenides, Dept. of ECECS, Univ. Cincinnati (October 28, 1999) 45221-0030.	
	CE1	Boolchand, P.; Grothaus, J., Molecular Structure of Melt-Quenched GeSe2 and GeS2 glasses compared, Proc. Int. Conf. Phys. Semicond. (Eds. Chadi and Harrison) 17 th (1985) 833-36.	
	CF1	Bresser, W.; Boolchand, P.; Suranyi, P., Rigidity percolation and molecular clustering in network glasses, Phys. Rev. Lett. 56 (1986) 2493-2496.	
	CG1	Bresser, W.J.; Boolchand, P.; Suranyi, P.; de Neufville, J.P., Intrinsically broken chalcogen chemical order in stoichiometric glasses, Journal de Physique 42 (1981) C4-193-C4-196.	
	CH1	Bresser, W.J.; Boolchand, P.; Suranyi, P.; Hernandez, J.G., Molecular phase separation and cluster size in GeSe2 glass, Hyperfine Interactions 27 (1986) 389-392.	
	CI1	Cahen, D.; Gilet, J.-M.; Schmitz, C.; Chernyak, L.; Gartsman, K.; Jakubowicz, A., Room-Temperature, electric field induced creation of stable devices in CulnSe2 Crystals, Science 258 (1992) 271-274.	
	CJ1	Chatterjee, R.; Asokan, S.; Titus, S.S.K., Current-controlled negative-resistance behavior and memory switching in bulk As-Te-Se glasses, J. Phys. D: Appl. Phys. 27 (1994) 2624-2627.	
	CK1	Chen, C.H.; Tai, K.L., Whisker growth induced by Ag photodoping in glassy GexSe1-x films, Appl. Phys. Lett. 37 (1980) 1075-1077.	
	CL1	Chen, G.; Cheng, J., Role of nitrogen in the crystallization of silicon nitride-doped chalcogenide glasses, J. Am. Ceram. Soc. 82 (1999) 2934-2936.	
	CM1	Chen, G.; Cheng, J.; Chen, W., Effect of Si3N4 on chemical durability of chalcogenide glass, J. Non-Cryst. Solids 220 (1997) 249-253.	
	CN1	Cohen, M.H.; Neale, R.G.; Paskin, A., A model for an amorphous semiconductor memory device, J. Non-Cryst. Solids 8-10 (1972) 885-891.	
	CO1	Croitoru, N.; Lazarescu, M.; Popescu, C.; Telnic, M.; and Vescan, L., Ohmic and non-ohmic conduction in some amorphous semiconductors, J. Non-Cryst. Solids 8-10 (1972) 781-786.	
	CP1	Dalven, R.; Gill, R., Electrical properties of beta-Ag2Te and beta-Ag2Se from 4.2 to 300K, J. Appl. Phys. 38 (1967) 753-756.	
	CQ1	Davis, E.A., Semiconductors without form, Search 1 (1970) 152-155.	
	CR1	Deamaley, G.; Stoneham, A.M.; Morgan, D.V., Electrical phenomena in amorphous oxide films, Rep. Prog. Phys. 33 (1970) 1129-1191.	
	CS1	Dejus, R.J.; Susman, S.; Volin, K.J.; Montague, D.G.; Price, D.L., Structure of Vitreous Ag-Ge-Se, J. Non-Cryst. Solids 143 (1992) 162-180.	
	CT1	den Boer, W., Threshold switching in hydrogenated amorphous silicon, Appl. Phys. Lett. 40 (1982) 812-813.	
PD	CU1	Drusedau, T.P.; Panckow, A.N.; Klabund, F., Th hydrogen nated amorphous	



PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0651-0031
U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete If Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	09/921,518
		Filing Date	August 1, 2001
		First Named Inventor	John T. Moore
		Group Art Unit	2818
		Examiner Name	Phuc T. Dang
		Attorney Docket Number	M4065.0696/P696
Sheet	4	8	

PD		silicon/nanodisperse metal (SIMAL) system-Films of unique electronic properties, J. Non-Cryst. Solids 198-200 (1996) 829-832.	
	CV1	El Bouchairi, B.; Bernede, J.C.; Burgaud, P., Properties of Ag ₂ -xSe _{1+x} /n-Si diodes, Thin Solid Films 110 (1983) 107-113.	
	CW1	El Gharras, Z.; Bourahla, A.; Vautier, C., Role of photoinduced defects in amorphous GexSe _{1-x} photoconductivity, J. Non-Cryst. Solids 155 (1993) 171-179.	
	CX1	El Ghrandi, R.; Calas, J.; Galibert, G.; Averous, M., Silver photodissolution in amorphous chalcogenide thin films, Thin Solid Films 218 (1992) 259-273.	
	CY1	El Ghrandi, R.; Calas, J.; Galibert, G., Ag dissolution kinetics in amorphous GeSe _{5.5} thin films from "in-situ" resistance measurements vs time, Phys. Stat. Sol. (a) 123 (1991) 451-460.	
	CZ1	El-kady, Y.L., The threshold switching in semiconducting glass Ge ₂₁ Se ₁₇ Te ₆₂ , Indian J. Phys. 70A (1996) 507-516.	
	CA2	Elliott, S.R., A unified mechanism for metal photodissolution in amorphous chalcogenide materials, J. Non-Cryst. Solids 130 (1991) 85-97.	
	CB2	Elliott, S.R., Photodissolution of metals in chalcogenide glasses: A unified mechanism, J. Non-Cryst. Solids 137-138 (1991) 1031-1034.	
	CC2	Elsamanoudy, M.M.; Hegab, N.A.; Fadel, M., Conduction mechanism in the pre-switching state of thin films containing Te As Ge Si, Vacuum 46 (1995) 701-707.	
	CD2	El-Zahed, H.; El-Korashy, A., Influence of composition on the electrical and optical properties of Ge ₂₀ BixSe _{80-x} films, Thin Solid Films 376 (2000) 236-240.	
	CE2	Fadel, M., Switching phenomenon in evaporated Se-Ge-As thin films of amorphous chalcogenide glass, Vacuum 44 (1993) 851-855.	
	CF2	Fadel, M.; El-Shair, H.T., Electrical, thermal and optical properties of Se ₇₅ Ge ₇ Sb ₁₈ , Vacuum 43 (1992) 253-257.	
	CG2	Feng, X.; Bresser, W.J.; Boolchand, P., Direct evidence for stiffness threshold in Chalcogenide glasses, Phys. Rev. Lett. 78 (1997) 4422-4425.	
	CH2	Feng, X.; Bresser, W.J.; Zhang, M.; Goodman, B.; Boolchand, P., Role of network connectivity on the elastic, plastic and thermal behavior of covalent glasses, J. Non-Cryst. Solids 222 (1997) 137-143.	
	CI2	Fischer-Colbrie, A.; Bienenstock, A.; Fuoss, P.H.; Marcus, M.A., Structure and bonding in photodiffused amorphous Ag-GeSe ₂ thin films, Phys. Rev. B 38 (1988) 12388-12403.	
	CJ2	Fleury, G.; Hamou, A.; Viger, C.; Vautier, C., Conductivity and crystallization of amorphous selenium, Phys. Stat. Sol. (a) 64 (1981) 311-316.	
	CK2	Fritzsche, H., Optical and electrical energy gaps in amorphous semiconductors, J. Non-Cryst. Solids 6 (1971) 49-71.	
	CL2	Fritzsche, H., Electronic phenomena in amorphous semiconductors, Annual Review of Materials Science 2 (1972) 697-744.	
	CM2	Gates, B.; Wu, Y.; Yin, Y.; Yang, P.; Xia, Y., Single-crystalline nanowires of Ag ₂ Se can be synthesized by templating against nanowires of trigonal Se, J. Am. Chem. Soc. (2001) currently ASAP.	
	CN2	Gosain, D.P.; Nakamura, M.; Shimizu, T.; Suzuki, M.; Okano, S., Nonvolatile memory based on reversible phase transition phenomena in telluride glasses, Jap. J. Appl. Phys. 28 (1989) 1013-1018.	
	CO2	Guin, J.-P.; Rouxel, T.; Keryvin, V.; Sangleboeuf, J.-C.; Serre, I.; Lucas, J., Indentation creep of Ge-Se chalcogenide glasses below Tg: elastic recovery and non-Newtonian flow, J. Non-Cryst. Solids 298 (2002) 260-269.	
	CP2	Guin, J.-P.; Rouxel, T.; Sangleboeuf, J.-C.; Melscoet, I.; Lucas, J., Hardness, toughness, and scratchability of germanium-selenium chalcogenide glasses, J. Am. Ceram. Soc. 85 (2002) 1545-52.	
PD	CQ2	Gupta, Y.P., On electrical switching and memory effects in amorphous chalcogenides, J. Non-Cryst. Sol. 3 (1970) 148-154.	



PTO/SB/08B (10-01)

Approved for use through 10/31/2002.OMB 0651-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	09/921,518
		Filing Date	August 1, 2001
		First Named Inventor	John T. Moore
		Group Art Unit	2818
		Examiner Name	Phuc T. Dang
		Attorney Docket Number	M4065.0696/P696
Sheet	5	8	

PP	CR2	Haberland, D.R.; Stiegler, H., New experiments on the charge-controlled switching effect in amorphous semiconductors, J. Non-Cryst. Solids 8-10 (1972) 408-414.	
	CS2	Haifz, M.M.; Ibrahim, M.M.; Dongol, M.; Hammad, F.H., Effect of composition on the structure and electrical properties of As-Se-Cu glasses, J. Appl. Phys. 54 (1983) 1950-1954.	
	CT2	Hajto, J.; Rose, M.J.; Osborne, I.S.; Snell, A.J.; Le Comber, P.G.; Owen, A.E., Quantization effects in metal/a-Si:H/metal devices, Int. J. Electronics 73 (1992) 911-913.	
	CU2	Hajto, J.; Hu, J.; Snell, A.J.; Turvey, K.; Rose, M., DC and AC measurements on metal/a-Si:H/metal room temperature quantized resistance devices, J. Non-Cryst. Solids 266-269 (2000) 1058-1061.	
	CV2	Hajto, J.; McAuley, B.; Snell, A.J.; Owen, A.E., Theory of room temperature quantized resistance effects in metal-a-Si:H-metal thin film structures, J. Non-Cryst. Solids 198-200 (1996) 825-828.	
	CW2	Hajto, J.; Owen, A.E.; Snell, A.J.; Le Comber, P.G.; Rose, M.J., Analogue memory and ballistic electron effects in metal-amorphous silicon structures, Phil. Mag. B 63 (1991) 349-369.	
	CX2	Hayashi, T.; Ono, Y.; Fukaya, M.; Kan, H., Polarized memory switching in amorphous Se film, Japan. J. Appl. Phys. 13 (1974) 1163-1164.	
	CY2	Hegab, N.A.; Fadel, M.; Sedeek, K., Memory switching phenomena in thin films of chalcogenide semiconductors, Vacuum 45 (1994) 459-462.	
	CZ2	Hirose, Y.; Hirose, H., Polarity-dependent memory switching and behavior of Ag dendrite in Ag-photodoped amorphous As ₂ S ₃ films, J. Appl. Phys. 47 (1976) 2767-2772.	
	CA3	Hong, K.S.; Speyer, R.F., Switching behavior in II-IV-V ₂ amorphous semiconductor systems, J. Non-Cryst. Solids 116 (1990) 191-200.	
	CB3	Hosokawa, S., Atomic and electronic structures of glassy GexSe1-x around the stiffness threshold composition, J. Optoelectronics and Advanced Materials 3 (2001) 199-214.	
	CC3	Hu, J.; Snell, A.J.; Hajto, J.; Owen, A.E., Constant current forming in Cr/p+a-/Si:H/V thin film devices, J. Non-Cryst. Solids 227-230 (1998) 1187-1191.	
	CD3	Hu, J.; Hajto, J.; Snell, A.J.; Owen, A.E.; Rose, M.J., Capacitance anomaly near the metal-non-metal transition in Cr-hydrogenated amorphous Si-V thin-film devices, Phil. Mag. B. 74 (1996) 37-50.	
	CE3	Hu, J.; Snell, A.J.; Hajto, J.; Owen, A.E., Current-induced instability in Cr-p+a-/Si:H-V thin film devices, Phil. Mag. B 80 (2000) 29-43.	
	CF3	Iizima, S.; Sugl, M.; Kikuchi, M.; Tanaka, K., Electrical and thermal properties of semiconducting glasses As-Te-Ge, Solid State Comm. 8 (1970) 153-155.	
	CG3	Ishikawa, R.; Kikuchi, M., Photovoltaic study on the photo-enhanced diffusion of Ag in amorphous films of Ge ₂ S ₃ , J. Non-Cryst. Solids 35 & 36 (1980) 1061-1066.	
	CH3	Iyetomi, H.; Vashishta, P.; Kalia, R.K., Incipient phase separation in Ag/Ge/Se glasses: clustering of Ag atoms, J. Non-Cryst. Solids 262 (2000) 135-142.	
	CI3	Jones, G.; Collins, R.A., Switching properties of thin selenium films under pulsed bias, Thin Solid Films 40 (1977) L15-L18.	
	CJ3	Joullie, A.M.; Marucchi, J., On the DC electrical conduction of amorphous As ₂ Se ₇ before switching, Phys. Stat. Sol. (a) 13 (1972) K105-K109.	
	CK3	Joullie, A.M.; Marucchi, J., Electrical properties of the amorphous alloy As ₂ Se ₅ , Mat. Res. Bull. 8 (1973) 433-442.	
	CL3	Kaplan, T.; Adler, D., Electrothermal switching in amorphous semiconductors, J. Non-Cryst. Solids 8-10 (1972) 538-543.	
	CM3	Kawaguchi, T.; Maruno, S.; Elliott, S.R., Optical, electrical, and structural properties of amorphous Ag-Ge-S and Ag-Ge-Se films and comparison of photoinduced and thermally induced phenomena of both systems, J. Appl. Phys. 79 (1996) 9096-9104.	
PD	CN3	Kawaguchi, T.; Masui, K., Analysis of change in optical transmission spectra resulting from Ag photodoping in chalcogenide film, Jpn. J. Appl. Phys. 26 (1987) 15-21.	



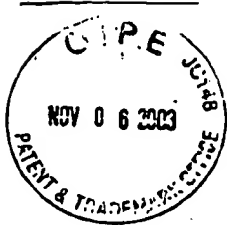
PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0651-0031
U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete If Known		
		Application Number	09/921,518	
		Filing Date	August 1, 2001	
		First Named Inventor	John T. Moore	
		Group Art Unit	2818	
		Examiner Name	Phuc T. Dang	
Sheet	6	8	Attorney Docket Number	M4065.0696/P696

PR	CO3	Kawasaki, M.; Kawamura, J.; Nakamura, Y.; Aniya, M., Ionic conductivity of $\text{Agx}(\text{GeSe3})_{1-x}$ ($0 < x < 0.571$) glasses, Solid state Ionics 123 (1999) 259-269.	
↑	CP3	Kluge, G.; Thomas, A.; Klages, R.; Grotzschel, R., Silver photodiffusion in amorphous GexSe_{100-x} , J. Non-Cryst. Solids 124 (1990) 186-193.	
	CQ3	Kolobov, A.V., On the origin of p-type conductivity in amorphous chalcogenides, J. Non-Cryst. Solids 198-200 (1996) 728-731.	
	CR3	Kolobov, A.V., Lateral diffusion of silver in vitreous chalcogenide films, J. Non-Cryst. Solids 137-138 (1991) 1027-1030.	
	CS3	Korkinova, Ts.N.; Andreichin, R.E., Chalcogenide glass polarization and the type of contacts, J. Non-Cryst. Solids 194 (1996) 256-259.	
	CT3	Kotkata, M.F.; Afif, M.A.; Labib, H.H.; Hegab, N.A.; Abdel-Aziz, M.M., Memory switching in amorphous GeSeTi chalcogenide semiconductor films, Thin Solid Films 240 (1994) 143-146.	
	CU3	Lakshminarayan, K.N.; Srivastava, K.K.; Panwar, O.S.; Dumar, A., Amorphous semiconductor devices: memory and switching mechanism, J. Instn Electronics & Telecom. Engrs 27 (1981) 16-19.	
	CV3	Lal, M.; Goyal, N., Chemical bond approach to study the memory and threshold switching chalcogenide glasses, Indian Journal of pure & appl. phys. 29 (1991) 303-304.	
	CW3	Leimer, F.; Stotzel, H.; Kottwitz, A., Isothermal electrical polarisation of amorphous GeSe films with blocking Al contacts influenced by Poole-Frenkel conduction, Phys. Stat. Sol. (a) 29 (1975) K129-K132.	
	CX3	Leung, W.; Cheung, N.; Neureuther, A.R., Photoinduced diffusion of Ag in GexSe_{1-x} glass, Appl. Phys. Lett. 46 (1985) 543-545.	
	CY3	Matsushita, T.; Yamagami, T.; Okuda, M., Polarized memory effect observed on Se-SnO_2 system, Jap. J. Appl. Phys. 11 (1972) 1657-1662.	
	CZ3	Matsushita, T.; Yamagami, T.; Okuda, M., Polarized memory effect observed on amorphous selenium thin films, Jpn. J. Appl. Phys. 11 (1972) 606.	
	CA4	Mazurier, F.; Levy, M.; Souquet, J.L., Reversible and irreversible electrical switching in $\text{TeO}_2\text{-V}_2\text{O}_5$ based glasses, Journal de Physique IV 2 (1992) C2-185 - C2-188.	
	CB4	Messoussi, R.; Bernede, J.C.; Benhida, S.; Abachi, T.; Latif, A., Electrical characterization of M/Se structures ($\text{M}=\text{Ni, Bi}$), Mat. Chem. And Phys. 28 (1991) 253-258.	
	CC4	Mitkova, M.; Boolchand, P., Microscopic origin of the glass forming tendency in chalcogenides and constraint theory, J. Non-Cryst. Solids 240 (1998) 1-21.	
	CD4	Mitkova, M.; Kozicki, M.N., Silver incorporation in Ge-Se glasses used in programmable metallization cell devices, J. Non-Cryst. Solids 299-302 (2002) 1023-1027.	
	CE4	Mitkova, M.; Wang, Y.; Boolchand, P., Dual chemical role of Ag as an additive in chalcogenide glasses, Phys. Rev. Lett. 83 (1999) 3848-3851.	
	CF4	Miyatani, S.-y., Electronic and ionic conduction in $(\text{AgxCu}_{1-x})_2\text{Se}$, J. Phys. Soc. Japan 34 (1973) 423-432.	
	CG4	Miyatani, S.-y., Ionic conduction in $\beta\text{-Ag}_2\text{Te}$ and $\beta\text{-Ag}_2\text{Se}$, Journal Phys. Soc. Japan 14 (1959) 996-1002.	
	CH4	Mott, N.F., Conduction in glasses containing transition metal ions, J. Non-Cryst. Solids 1 (1968) 1-17.	
	CI4	Nakayama, K.; Kitagawa, T.; Ohmura, M.; Suzuki, M., Nonvolatile memory based on phase transitions in chalcogenide thin films, Jpn. J. Appl. Phys. 32 (1993) 564-569.	
	CJ4	Nakayama, K.; Kojima, K.; Hayakawa, F.; Imai, Y.; Kitagawa, A.; Suzuki, M., Submicron nonvolatile memory cell based on reversible phase transition in chalcogenide glasses, Jpn. J. Appl. Phys. 39 (2000) 6157-6161.	
✓	CK4	Nang, T.T.; Okuda, M.; Matsushita, T.; Yokota, S.; Suzuki, A., Electrical and optical parameters of GexSe_{1-x} amorphous thin films, Jap. J. App. Phys. 15 (1976) 849-853.	
PP	CL4	Narayanan, R.A.; Asokan, S.; Kumar, A., Evidence concerning the effect of topology on critical switching in chalcogenide network glasses, Phys. R. v. B 54 (1996) 4413-4415.	



PTO/SB/08B (10-01)

Approved for use through 10/31/2002 OMB 0851-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete If Known	
		Application Number	09/921,518
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Filing Date	August 1, 2001
		First Named Inventor	John T. Moore
		Group Art Unit	2818
		Examiner Name	Phuc T. Dang
		Attorney Docket Number	M4065.0696/P696
Sheet	7	8	

PD	CM4	Neale, R.G.; Aseltine, J.A., The application of amorphous materials to computer memories, IEEE transactions on electron dev. Ed-20 (1973) 195-209.	
	CN4	Ovshinsky S.R.; Fritzsche, H., Reversible structural transformations in amorphous semiconductors for memory and logic, Metallurgical transactions 2 (1971) 641-645.	
	CO4	Ovshinsky, S.R., Reversible electrical switching phenomena in disordered structures, Phys. Rev. Lett. 21 (1968) 1450-1453.	
	CP4	Owen, A.E.; LeComber, P.G.; Sarraayrouse, G.; Spear, W.E., New amorphous-silicon electrically programmable nonvolatile switching device, IEE Proc. 129 (1982) 51-54	
	CQ4	Owen, A.E.; Firth, A.P.; Ewen, P.J.S., Photo-induced structural and physico-chemical changes in amorphous chalcogenide semiconductors, Phil. Mag. B 52 (1985) 347-362.	
	CR4	Owen, A.E.; LeComber, P.G.; Hajto, J.; Rose, M.J.; Snell, A.J., Switching in amorphous devices, Int. J. Electronics 73 (1992) 897-906.	
	CS4	Pearson, A.D.; Miller, C.E., Filamentary conduction in semiconducting glass diodes, App. Phys. Lett. 14 (1969) 280-282.	
	CT4	Pinto, R.; Ramanathan, K.V., Electric field induced memory switching in thin films of the chalcogenide system Ge-As-Se, Appl. Phys. Lett. 19 (1971) 221-223.	
	CU4	Popescu, C., The effect of local non-uniformities on thermal switching and high field behavior of structures with chalcogenide glasses, Solid-state electronics 18 (1975) 671-681.	
	CV4	Popescu, C.; Croitoru, N., The contribution of the lateral thermal instability to the switching phenomenon, J. Non-Cryst. Solids 8-10 (1972) 531-537.	
	CW4	Popov, A.I.; Geller, I.KH.; Shemetova, V.K., Memory and threshold switching effects in amorphous selenium, Phys. Stat. Sol. (a) 44 (1977) K71-K73.	
	CX4	Prakash, S.; Asokan, S.; Ghare, D.B., Easily reversible memory switching in Ge-As-Te glasses, J. Phys. D: Appl. Phys. 29 (1996) 2004-2008.	
	CY4	Rahman, S.; Sivarama Sastry, G., Electronic switching in Ge-Bi-Se-Te glasses, Mat. Sci. and Eng. B12 (1992) 219-222.	
	CA5	Ramesh, K.; Asokan, S.; Sangunni, K.S.; Gopal, E.S.R., Electrical Switching in germanium telluride glasses doped with Cu and Ag, Appl. Phys. A 69 (1999) 421-425.	
	CB5	Rose, M.J.; Hajto, J.; Lecomber, P.G.; Gage, S.M.; Choi, W.K.; Snell, A.J.; Owen, A.E., Amorphous silicon analogue memory devices, J. Non-Cryst. Solids 115 (1989) 168-170.	
	CC5	Rose, M.J.; Snell, A.J.; Lecomber, P.G.; Hajto, J.; Fitzgerald, A.G.; Owen, A.E., Aspects of non-volatility in a -Si:H memory devices, Mat. Res. Soc. Symp. Proc. V 258, 1992, 1075-1080.	
	CD5	Schuoocker, D.; Rieder, G., On the reliability of amorphous chalcogenide switching devices, J. Non-Cryst. Solids 29 (1978) 397-407.	
	CE5	Sharma, A.K.; Singh, B., Electrical conductivity measurements of evaporated selenium films in vacuum, Proc. Indian Natn. Sci. Acad. 46, A, (1980) 362-368.	
	CF5	Sharma, P., Structural, electrical and optical properties of silver selenide films, Ind. J. Of pure and applied phys. 35 (1997) 424-427.	
	CG5	Snell, A.J.; Lecomber, P.G.; Hajto, J.; Rose, M.J.; Owen, A.E.; Osborne, I.L., Analogue memory effects in metal/a-Si:H/metal memory devices, J. Non-Cryst. Solids 137-138 (1991) 1257-1262.	
	CH5	Snell, A.J.; Hajto, J.; Rose, M.J.; Osborne, L.S.; Holmes, A.; Owen, A.E.; Gibson, R.A.G., Analogue memory effects in metal/a-Si:H/metal thin film structures, Mat. Res. Soc. Symp. Proc. V 297, 1993, 1017-1021.	
	CI5	Steventon, A.G., Microfilaments in amorphous chalcogenide memory devices, J. Phys. D: Appl. Phys. 8 (1975) L120-L122.	
	CJ5	Steventon, A.G., The switching mechanisms in amorphous chalcogenide memory devices, J. Non-Cryst. Solids 21 (1976) 319-329.	
	CK5	Stocker, H.J., Bulk and thin film switching and memory effects in semiconducting chalcogenide glasses, App. Phys. Lett. 15 (1969) 55-57.	
PD	CL5	Tanaka, K., Ionic and mixed conductions in Ag photodoping process, Mod. Phys. Lett. B 4	



PTO/SB/088 (10-01)

Approved for use through 10/31/2002.OMB 0651-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Compl t If Kn wn			
		Application Number	09/921,518		
		Filing Date	August 1, 2001		
		First Named Inventor	John T. Moore		
		Group Art Unit	2818		
		Examiner Name	Phuc T. Dang		
Sheet	8		8	Attorney Docket Number	M4065.0696/P696

PD		(1990) 1373-1377.	
↑	CM5	Tanaka, K.; Iizima, S.; Sugi, M.; Okada, Y.; Kikuchi, M., Thermal effects on switching phenomenon in chalcogenide amorphous semiconductors, Solid State Comm. 8 (1970) 387-389.	
	CN5	Thornburg, D.D., Memory switching in a Type I amorphous chalcogenide, J. Elect. Mat. 2 (1973) 3-15.	
	CO5	Thornburg, D.D., Memory switching in amorphous arsenic triselenide, J. Non-Cryst. Solids 11 (1972) 113-120.	
	CP5	Thornburg, D.D.; White, R.M., Electric field enhanced phase separation and memory switching in amorphous arsenic triselenide, Journal(?) (1972) 4609-4612.	
	CQ5	Tichy, L.; Ticha, H., Remark on the glass-forming ability in GexSe1-x and AsxSe1-x systems, J. Non-Cryst. Solids 261 (2000) 277-281.	
	CR5	Titus, S.S.K.; Chatterjee, R.; Asokan, S., Electrical switching and short-range order in As-Te glasses, Phys. Rev. B 48 (1993) 14650-14652.	
	CS5	Tranchant, S.; Peytavin, S.; Ribes, M.; Flank, A.M.; Dexpert, H.; Lagarde, J.P., Silver chalcogenide glasses Ag-Ge-Se: Ionic conduction and exafs structural investigation, Transport-structure relations in fast ion and mixed conductors Proceedings of the 6th Riso International symposium. 9-13 September 1985.	
	CT5	Tregouet, Y.; Bernede, J.C., Silver movements in Ag2Te thin films: switching and memory effects, Thin Solid Films 57 (1979) 49-54.	
	CU5	Uemura, O.; Kameda, Y.; Kokai, S.; Satow, T., Thermally induced crystallization of amorphous Ge0.4Se0.6, J. Non-Cryst. Solids 117-118 (1990) 219-221.	
	CV5	Uttecht, R.; Stevenson, H.; Sie, C.H.; Griener, J.D.; Raghavan, K.S., Electric field induced filament formation in As-Te-Ge glass, J. Non-Cryst. Solids 2 (1970) 358-370.	
	CD5	Viger, C.; Lefrancois, G.; Fleury, G., Anomalous behaviour of amorphous selenium films, J. Non-Cryst. Solids 33 (1976) 267-272.	
	CX5	Vodenicharov, C.; Parvanov, S.; Petkov, P., Electrode-limited currents in the thin-film M-GeSe-M system, Mat. Chem. And Phys. 21 (1989) 447-454.	
	CY5	Wang, S.-J.; Misium, G.R.; Camp, J.C.; Chen, K.-L.; Tigelaar, H.L., High-performance Metal/silicide antifuse, IEEE electron dev. Lett. 13 (1992) 471-472.	
	CZ5	Weirauch, D.F., Threshold switching and thermal filaments in amorphous semiconductors, App. Phys. Lett. 16 (1970) 72-73.	
✓	CA6	West, W.C.; Sieradzki, K.; Kardynal, B.; Kozicki, M.N., Equivalent circuit modeling of the Ag As0.24S0.36Ag0.40 Ag System prepared by photodissolution of Ag, J. Electrochem. Soc. 145 (1998) 2971-2974	
PD	CB6	Zhang, M.; Mancini, S.; Bresser, W.; Boolchand, P., Variation of glass transition temperature, Tg, with average coordination number, <m>, in network glasses: evidence of a threshold behavior in the slope dTg/d<m> at the rigidity percolation threshold (<m>=2.4), J. Non-Cryst. Solids 151 (1992) 149-154.	

Examiner Signature	PHUC T. DANG	Date Considered	5/28/04
--------------------	--------------	-----------------	---------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.



PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0851-0031
U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO				Complete if Known	
				Application Number	09/921,518
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Filing Date	August 1, 2001
				First Named Inventor	John T. Moore
				Art Unit	2818
				Examiner Name	P. Dang
				Attorney Docket Number	M4065.0696/P696
Sheet	1	of	3		

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.†	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code² (if known)			
PD	AA	2002/0072188	6/13/2002	Gilton	
↑	AB	2002/0106849	08/08/2002	Moore	
	AC	2002/0123169	09/05/2002	Moore et al.	
	AD	2002/0123170	09/05/2002	Moore et al.	
	AE	2002/0123248	09/05/2002	Moore et al.	
	AF	2002/0127886	09/12/2002	Moore et al.	
	AG	2002/0132417	09/09/2002	Li	
	AH	2002/0160551	10/31/2002	Harshfield	
	AI	2002/0163828	11/07/2002	Krieger et al.	
	AJ	2002/0168820	11/2002	Kozicki	
	AK	2002/0168852	11/14/2002	Harshfield et al.	
	AL	2002/0190289	12/19/2002	Harshfield et al.	
	AM	2002/0190350	12/19/2002	Kozicki et al.	
	AN	2003/0001229	01/02/2003	Moore et al.	
	AO	2003/0027416	02/06/2003	Moore	
	AP	2003/0032254	02/13/2003	Gilton	
	AQ	2003/0035314	02/20/2003	Kozicki	
	AR	2003/0035315	02/20/2003	Kozicki	
	AS	2003/0038301	02/27/2003	Moore	
	AT	2003/0043631	03/06/2003	Gilton et al.	
	AU	2003/0045049	03/06/2003	Campbell et al.	
	AV	2003/0045054	03/06/2003	Campbell et al.	
	AW	2003/0047765	03/13/2003	Campbell	
	AX	2003/0047772	03/13/2003	Li	
	AY	2003/0047773	03/13/2003	Li	
	AZ	2003/0048519	03/13/2003	Kozicki	
	AA1	2003/0049912	03/13/2003	Campbell et al.	
	AB1	2003/0068861	04/10/2003	Li	
	AC1	2003/0068862	04/10/2003	Li	
	AD1	2003/0095426	05/22/2003	Hush et al.	
	AE1	2003/0096497	05/22/2003	Moore et al.	
	AF1	2003/0107105	06/12/2003	Kozicki	
	AG1	2003/0117831	06/26/2003	Hush	
	AH1	2003/0128612	07/10/2003	Moore et al.	
	AI1	2003/0137869	07/24/2003	Kozicki	
	AJ1	2003/0143782	07/31/2003	Gilton et al.	
	AK1	2003/0155589	08/21/2003	Campbell et al.	
	AL1	2003/0155606	08/21/2003	Campbell et al.	
	AM1	2003/0156447	08/21/2003	Kozicki	
	AN1	2003/0156463	08/21/2003	Casper et al.	
	AO1	2003/0209728	11/13/2003	Kozicki et al.	
	AP1	2003/0209971	11/13/2003	Kozicki et al.	
	AQ1	2003/0210564	11/13/2003	Kozicki et al.	
PD	AR1	4,316,946	1/1982	Masters, et al.	

PHUC T. DANG
PRIMARY EXAMINER

Sangphum

5/28/04



PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0851-0031
U. S. Patent and Trademark Office: U. S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	09/921,518
				Filing Date	August 1, 2001
				First Named Inventor	John T. Moore
				Art Unit	2818
				Examiner Name	P. Dang
				Attorney Docket Number	M4065.0696/P696
Sheet	2	of	3		

PD	AS1	4,405,710	9/1983	Balasubramanyam et al.	
	AT1	4,419,421	12/1983	Wichelhaus, et al.	
	AU1	4,499,557	2/1985	Holmberg et al.	
	AV1	4,671,618	06/09/1987	Wu et al.	
	AW1	4,800,526	01/24/1989	Lewis	
	AX1	5,238,862	8/1993	Blalock et al.	
	AY1	5,272,359	12/21/1993	Nagasubramanian et al.	
	AZ1	5,314,772	5/24/1994	Kozicki	
	AA2	5,315,131	5/1994	Kishimoto et al.	
	AB2	5,350,484	9/1994	Gardner et al.	
	AC2	5,360,981	11/1994	Owen et al.	
	AD2	5,512,328	4/1996	Yoshimura et al.	
	AE2	5,512,773	4/1996	Wolf et al.	
	AF2	5,814,527	9/29/1998	Wolstenholme et al	
	AG2	5,818,749	10/06/1998	Harshfield	
	AH2	5,846,889	12/1998	Harbison et al.	
	AI2	5,851,882	12/22/1998	Harshfield	
	AJ2	5,869,843	2/9/1999	Harshfield	
	AK3	6,031,287	2/29/2000	Harshfield	
	AL3	6,072,716	06/06/2000	Jacobson et al.	
	AM3	6,329,606	12/2001	Freyman et al.	
	AN3	6,348,365	2/19/2002	Moore et al.	
	AO3	6,376,284	4/2002	Gonzalez et al.	
	AP3	6,420,725	7/16/2002	Harshfield	
	AQ3	6,440,837	8/27/2002	Harshfield	
	AR3	6,473,332	10/2002	Ignatiev et al.	
PD	AS3	6,487,106	11/26/2002	Kozicki	
	AT3				

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. ¹	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Country Code ² -Number ³ -Kind Code ⁴ (if known)					
PD	BA	56126916		10/19981	Akira et al.		

Examiner Signature	PHUC T. DANG	Date Considered	5/28/04
--------------------	--------------	-----------------	---------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant

¹ Applicant's unique citation designation number (optional). ² See attached Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the application number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.



PTO/SB/088 (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known			
		Application Number	09/921,518 Conf.#6082		
		Filing Date	August 1, 2001		
		First Named Inventor	John T. Moore		
		Group Art Unit	2818		
		Examiner Name	P. Dang		
Sheet	3	of	3	Attorney Docket Number	M4065.0696/P696

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS				
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T ²
PD ✓	CA	Axon Technologies Corporation, TECHNOLOGY DESCRIPTION: <i>Programmable Metalization Cell(PMC)</i> , pp. 1-6 (Pre-May 2000).		
✓	CB	El Bouchairi, B.; Bernede, J.C.; Burgaud, P., Properties of Ag ₂ -xSe ₁ +x/n-Si diodes, Thin Solid Films 110 (1983) 107-113.		
✓	CC	Hirose et al., <i>High Speed Memory Behavior and Reliability of an Amorphous As₂S₃ Film Doped Ag</i> , PHYS. STAT. SOL. (a) 61, pp. 87-90 (1980).		
✓	CD	Holmquist et al., <i>Reaction and Diffusion in Silver-Arsenic Chalcogenide Glass Systems</i> , 62 J. AMER. CERAM. SOC., No. 3-4, pp. 183-188 (March-April 1979).		
✓	CE	Kolobov et al., Photodoping of amorphous chalcogenides by metals, Advances in Physics, 1991, Vol. 40, No. 5, pgs. 625-684.		
✓	CF	Kozicki et al., Silver incorporation in thin films of selenium rich Ge-Se glasses, International Congress on Glass, Volume 2, Extended Abstracts, July 2001, pgs. 8-9.		
✓	CG	Michael N. Kozicki, 1. Programmable Metallization Cell Technology Description, February 18, 2000		
✓	CH	Michael N. Kozicki, Axon Technologies Corp. and Arizona State University, Presentation to Micron Technology, Inc., April 6, 2000		
✓	CI	Kozicki et al., Applications of Programmable Resistance Changes In Metal-Doped Chalcogenides, Electrochemical Society Proceedings, Volume 99-13, 1999, pgs. 298-309.		
✓	CK	Kozicki et al., Nanoscale effects in devices based on chalcogenide solid solutions, Superlattices and Microstructures, Vol. 27, No. 516, 2000, pgs. 485-488.		
✓	CL	Kozicki et al., Nanoscale phase separation in Ag-Ge-Se glasses, Microelectronic Engineering 63 (2002) pgs 155-159.		
✓	CM	Owen et al., Metal-Chalcogenide Photoresists for High Resolution Lithography and Sub-Micron Structures, Nanostructure Physics and Fabrication, pp. 447-451 (M. Reed ed. 1989).		
PPJ	CN	West, W.C., Electrically erasable non-volatile memory via electrochemical deposition of multifractal aggregates, Ph.D. Dissertation, ASU 1998		

Examiner Signature	PHUC T. DANG	Date Considered	5/28/04
--------------------	--------------	-----------------	---------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.



PTO/SB/08a/b (08-03)
Approved for use through 07/31/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete if Known	
				Application Number	09/921,518-Conf. #6082
				Filing Date	August 1, 2001
				First Named Inventor	John T. Moore
				Art Unit	2818
				Examiner Name	P. T. Dang
Sheet	1	of	1	Attorney Docket Number	M4065.0696/P696

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T ²
PP	CA	YOJI KAWAMOTO et al., "Ionic Conduction in As ₂ S ₃ -Ag ₂ S, GeS ₂ -GeS ₂ -GeS-Ag ₂ S and P ₂ S ₅ -Ag ₂ S Glasses," Journal of Non-Crystalline Solids 20 (1976) 393-404.		

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

PHUC T. DANG
PRIMARY EXAMINER

Phung

5/28/04